Fall 2008

CEG 436/636: Mobile Computing

Yong Pei
Wright State University - Main Campus, yong.pei@wright.edu

CEG 436/636 Mobile Computing

4 Credits

Syllabus

Time/Place: Lecture: 4:10 – 5:25 PM, M. & W., 153 Russ Engineering Center

Instructor: Dr. Yong Pei, 489 Joshi Research Center
Tel. 937-775-5111, Email: yong.pei@wright.edu
Office Hours: 6:00-8:00pm, Tu./Th.

Prerequisites: CEG402/602 (or equivalent)

Textbooks:
Recommended:
Yu-Kwong Kwok and Vincent Lau, "Wireless Internet and Mobile Computing", Wiley Interscience, ISBN 978-0471-67968-4.

Lecture slides will be posted through WebCT.

References:

1. T.S. Rappaport, "Wireless Communications: Principle and Practice", 2nd Edition, Prentice Hall, 2002.
2. S. Keshav, "An Engineering Approach to Computer Networking: ATM networks, the Internet, and the Telephone Network", Addison-Wesley, 1997.
3. P. Nicopolitidis, *et al.* "Wireless Networks", Wiley, 2003.

Course Webpage: Through WebCT

Course Objective:

Increasingly, people, computers and microelectronic devices are being linked together to bring to life the communications mantra: anybody, anything, anytime, anywhere. This junior/senior/graduate course provides an in-depth study of networking protocol and system design in the area of wireless networking and mobile computing. It will help engineering and computer science students establish a solid foundation in concepts, architecture, design, and performance evaluation of mobile computing principle, protocols and applications. It will also introduce students to a few hot topics in wireless networking and mobile computing research such as mobile IP, wireless TCP, 802.11, agent techniques, etc. The course material also consists of selected technical papers published in major networking conferences and journals, which will be posted on the web.

Topical Outline

- Networking Fundamentals
  - Fundamental Design Issues
  - Design Principles and Philosophy
  - Overview of Wireless & Mobile Networks

- Wireless Networking Protocols
  - Mobility Support - Mobile IP
  - Ad hoc routing
  - Packet Scheduling
  - Distributed File System

- Topical Studies
  - Energy-efficient Design
  - Sensor Networks
  - Pervasive Computing
  - Analytical Tools and Performance Evaluation

Grading: (Tentative)

Homework = 20%

Midterm Exam = 30%;

Final Exam = 30%;

Project/Term Paper = 20%.